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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,619	03/25/2004	Fuyuki Okamoto	17566	6078
23389	7590	09/23/2005	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			FLANAGAN, KRISTA M	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/808,619		OKAMOTO, FUYUKI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Krista M. Flanagan		2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>25 March 2004</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 65, 66 and 67. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 10 and 11 are objected to because of the following informalities: Please omit the "s" from the end of "Claims" in line 2 of each the claims. Appropriate correction is required.
3. Claim 1 is objected to because of the following informalities: It is the examiner's opinion that line 14 should be changed from "sections to make said one of resonant circuit to output a" to - sections to make one of said resonant circuits to output a-. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2817

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claims 3 and 8, the claim language fails to distinctly point out what the source and the drain are connected to.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 5, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application No. US2003/0184378 A1 to Segawa in view of US Patent No 6,060,956 to Mole et al.

9. Regarding claims 1, 2, 5 and 7 Segawa discloses a differential amplifier having two resonant circuits (25 and 24) each with an inductor (25\_1 and 24\_1) and a capacitor (25-2 and 24\_2) connected between two potentials, VDD and current source 21 and ground via NMOS transistors (23 and 22) with complementary inputs IN- and IN+ as disclosed on page 4, paragraphs 0080 and 0081. The circuit has two output terminals (OUT- and OUT+), which output signals from each of the corresponding resonant circuits (OUT-:25 and OUT+:24). NMOS transistors (23 and 22) are connected between the parallel resonant circuits and constant current source (21). Amplified signals of the complementary signal IN- and IN+ are output to

Art Unit: 2817

the output terminals. Segawa fails to disclose a resonant circuit with a variable capacitor to vary the capacitance and hence the resonant frequency. However, Mole discloses a voltage controlled oscillator which uses a voltage controlled variable capacitance diode, where it is obvious to use a variable capacitor or a varactor element to vary the resonant frequency in the resonant circuit in column 1 at lines 21-25. It would have been obvious for one of ordinary skill in the art to use a variable capacitor or varactor element to vary the resonant frequency. One would be motivated to do this to control the peaking position and correspond to frequencies other than frequencies presumed in the design. Inherently, by changing the capacitance the impedance frequency characteristics will be adjusted.

10. Regarding claims 3 and 8 in light of the 112 rejection, Segawa discloses a differential amplifier circuit where transistor 23 drain is connected to the output, source is connected to ground through current source 21 and gate is connected to input. Transistor 22 is connected similarly.

11. Regarding claims 4 and 9, Segawa fails to disclose a bias transistor which using a bias voltage at a fixed value to provide a fixed current. <sup>H</sup> However Segawa does disclose a constant current source, 21 to provide a fixed current. It is well known in the art to use a transistor with the gate biased, source connected to ground and drain connected to a differential pair to provide a constant current source.

12. Regarding claims 10 and 11, Segawa discloses a differential amplifier for use on a semiconductor chip on page 4, paragraph 0082, in lines 6-10.

Art Unit: 2817

*Allowable Subject Matter*

13. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista M. Flanagan whose telephone number is (571) 272-2203. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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20050902

BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817